

SPRING RELAPSES IN BENIGN TERTIAN MALARIA

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(Received for publication 21 August, 1925)

While engaged, between 1916 and 1918, in the treatment of soldiers who suffered from malaria and who had been invalided from the Salonika army to the hospital base at Malta, I was struck by two clinical facts. The first was that patients who had been transferred to convalescent camp after recovery from attacks of benign tertian malaria, showed an extraordinary tendency to have relapses in the early spring, although the weather was genial; the second, that several patients whom I had treated (1919) in the late autumn, for severe subtertian malaria, remained well for two months or longer, and then relapsed about February, but this time with a benign tertian infection. It is possible that the men referred to in the latter case had previously experienced attacks of this form of malaria, although, in some instances at least, there was no history of it. It seemed possible that the tertian infection remained latent for some months after inoculation of the subject, and showed itself for the first time some months later. Indigenous malaria is extremely rare in Malta, and one could be all but certain that the tertian infection had not been acquired on the island, but there was no certainty that men coming from such a highly malarious country as Macedonia had not previously suffered from a benign tertian attack.

Acton, Curjel and Dewey (1921) record a similar experience. Of a series of 102 malignant tertian infections received for treatment at Dagshai, in India, in 1918, only seven were diagnosed as mixed parasitic infections due to the benign and malignant tertian parasites; yet in this series there were 64 benign tertian relapses, indicating that the majority of these mixed parasitic infections had been overlooked.

Some time ago a patient of my own developed benign tertian malaria in a manner which leaves little doubt that the first attack of the disease occurred after an incubation period of several months.

W.A., aged 37, a ship's officer, consulted me on 2nd December, 1921, about an illness which had been diagnosed as malaria. His ship had been in Bombay for a fortnight, from 1st October, 1921, and just before she left port he fell ill with malaise and headache, but without rigor or vomiting. This illness ceased in three or four days. A fortnight later, on the voyage to Europe, he had a second attack, of four days' duration, with similar symptoms. A third attack occurred about 7th November, while his ship was lying at Antwerp, and then for the first time he had shivering and some vomiting. When I saw him four weeks later, he felt out of sorts, but had 'on days and off days.' The spleen was considerably enlarged, and subtertian parasites, both rings and crescents, were present in the blood.

He was given a thorough course of quinine, beginning with a daily intravenous injection of bihydrochloride for four days, the first of 10 grains, and the three others of 15 grains each. From 7th till 26th December he took, by the mouth, 30 grains of quinine sulphate daily in solution; thereafter, for a month, 20 grains a day; and then 12 grains daily. A few crescents were present in the blood on 9th December. On seven subsequent examinations, up to 10th February, no parasites were found. By the middle of January the patient felt very well, and remained well, still taking 12 grains of quinine sulphate daily, until 8th March, when he vomited in the evening, complained of headache, and shivered a little. Two days later he had a more severe attack, and a two-day periodicity was established when I was called by his doctor to see him on 15th March. On that date the spleen was two inches below the ribs, and parasites, now benign tertian, were numerous in the blood. Subtertian forms were not observed, and the patient said that the symptoms were quite different from those which he had previously experienced, the shivering and headache being severe, and the attacks periodic. He quickly improved with a further course of treatment, but relapsed on 15th June, when benign tertian parasites were again found in the blood. There was a further relapse at the end of September, after

which he remained well until he passed out of my observation in January, 1923.

In this case there was no history of previous benign tertian malaria, and as the period from December till March was spent in the west of Scotland, infection must have taken place at least five months before the first attack. His previous visit, before October, 1921, to a malarious country was in March of the same year, when his ship had called at Bombay. But his first malarial attack of any kind did not occur till October, 1921. The subtertian parasites were apparently killed off by the course of quinine, but the benign tertian resisted it and caused an attack, even although the patient was taking 12 grains of quinine sulphate a day. It is to be noted that this tertian attack came on in the spring, as in the cases I referred to in the opening paragraph.

Although no reference is made to this peculiarity of tertian malaria in most text-books, the point is not a new one, for Dr. J. G. Jack has drawn my attention to a passage in Shakespeare's *Henry V*, Part 1, Act 4, Scene 1, lines 111-112, where Hotspur says :

‘ No more, no more ; worse than the sun in March,
This praise doth nourish agues.’

REFERENCES

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